

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
15 July 2004 (15.07.2004)

PCT

(10) International Publication Number
WO 2004/059529 A3

(51) International Patent Classification⁷: **G06F 17/30**

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(21) International Application Number:
PCT/GB2003/005396

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(22) International Filing Date:
11 December 2003 (11.12.2003)

(81) Designated States (*national*): CA, US.

(25) Filing Language: English

(84) Designated States (*regional*): European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

(26) Publication Language: English

(30) Priority Data:
0230331.1 31 December 2002 (31.12.2002) GB

Published:
— with international search report
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

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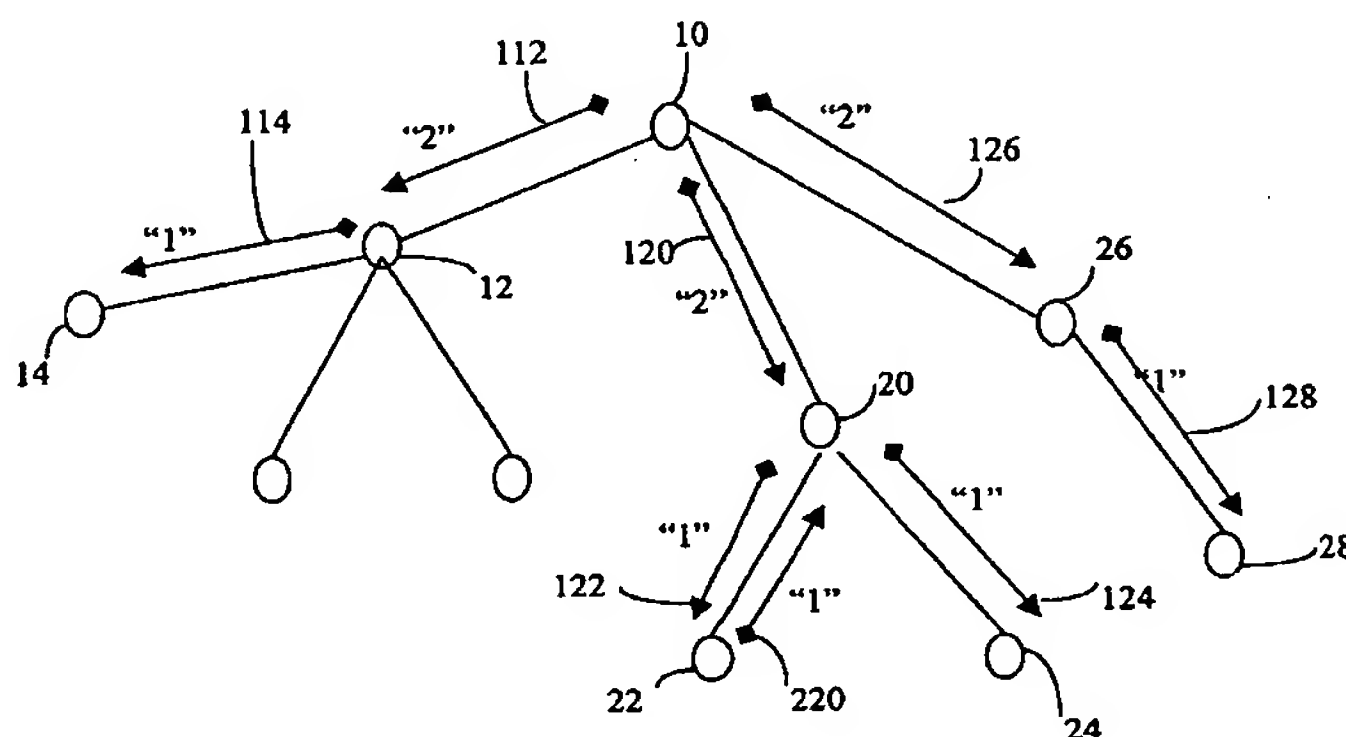
(88) Date of publication of the international search report:
20 January 2005

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD AND APPARATUS FOR DISCOVERING COMPUTERS FOR STORING FRAGMENTS OF FILES IN A COMPUTER NETWORK



(57) Abstract: The discovery process comprises the device (10) generating messages (112, 120 126) which together have the purpose of identifying a predetermined number of devices which satisfy a test condition included in each message. These messages are sent respectively to the on-line devices (12, 20, 26) neighbouring device (10). To ensure that no more devices than necessary are identified by the messages, each message includes a variable which is referred to as a token bucket which indicates the number of devices to be discovered by the message. Additionally, each message includes a unique identifier. When a device (12, 20 26) receives a discovery message sent from another device, it determines if it satisfies the test condition and if so it sends an acceptance message to the originating device, decrements the token bucket in the message and forwards on any remaining tokens to another neighbour. The process stops once all tokens have been disposed of in this way. If a message reaches the end of a path without disposing of all of the tokens, the message is returned back up the path to try different paths until eventually all paths have been tried or a restriction criterion (eg maximum permitted number of hops) is met whereupon the message is returned back as a failed message to the originating device.

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INTERNATIONAL SEARCH REPORT

International Application No

Pt B 03/05396

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G06F17/30

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G06F H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>SMITHSON A ET AL: "Engineering an agent-based peer-to-peer resource discovery system"</p> <p>AGENTS AND PEER-TO-PEER COMPUTING. FIRST INTERNATIONAL WORKSHOP, AP2PC 2002. REVISED AND INVITED PAPERS (LECTURE NOTES IN ARTIFICIAL INTELLIGENCE VOL.2530) SPRINGER-VERLAG BERLIN, GERMANY, 15 July 2002 (2002-07-15), pages 69-80, XP002302657</p> <p>ISBN: 3-540-40538-0</p> <p>the whole document</p> <p style="text-align: center;">----- -/--</p>	1-11



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Patent family members are listed in annex.

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Date of the actual completion of the international search

2 November 2004

Date of mailing of the international search report

09/11/2004

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International Application No

F B 03/05396

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>ROBERTSON D, MCKEE P, HOILE C: "Persistent, Reliable, Decentralised File System - DFS" LCS2002 PROCEEDINGS, 'Online! 9 September 2002 (2002-09-09), pages 1-4, XP002302658 LONDON Retrieved from the Internet: URL:http://www.ee.ucl.ac.uk/lcs/papers2002/LCS034.pdf> 'retrieved on 2004-10-25! cited in the application the whole document</p>	1-11
A	<p>KRISHNA RAMANATHAN M ET AL: "Finding good peers in peer-to-peer networks" PARALLEL AND DISTRIBUTED PROCESSING SYMPOSIUM., PROCEEDINGS INTERNATIONAL, IPDPS 2002, ABSTRACTS AND CD-ROM FT. LAUDERDALE, FL, USA 15-19 APRIL 2002, LOS ALAMITOS, CA, USA, IEEE COMPUT. SOC, US, 15 April 2002 (2002-04-15), pages 232-239, XP010591039 ISBN: 0-7695-1573-8 the whole document</p>	1-11
A	<p>ROWSTRON A ET AL: "Storage management and caching in PAST, a large-scale, persistent peer-to-peer storage utility" OPERATING SYSTEMS REVIEW ACM USA, vol. 35, no. 5, 21 October 2001 (2001-10-21), pages 188-201, XP002302659 ISSN: 0163-5980 the whole document</p>	1-11
A	<p>WEATHERSPOON H, WELLS C, EATON P R, ZHAO B Y, KUBIATOWICZ J D: "Silverback: A global-scale archival system" INTERNET, 'Online! March 2001 (2001-03), pages 0-15, XP002302722 BERKELEY, CALIFORNIA Retrieved from the Internet: URL:http://sunsite.berkeley.edu/Dienst/Repository/2.0/Body/ncstr1.ucb/CSD-01-1139/pdf> 'retrieved on 2004-10-27! abstract; sections 3.1, 3.3., 4.3, 4.3.1</p>	1-11